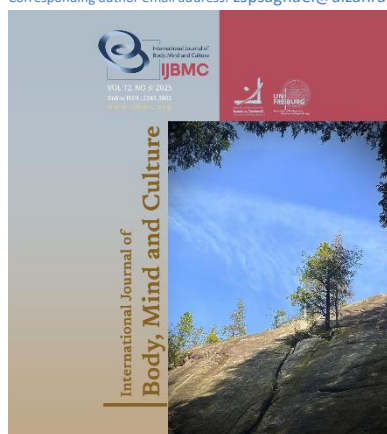


Article type:  
Original Research

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Article history:

Received 28 Dec 2024

Revised 19 Feb 2025

Accepted 24 Feb 2025

Published online 28 Mar 2025

How to cite this article:

Nazaralian, Z., & Pour Seyyed Aghaei, Z. S. (2025).  
Modeling Teacher-Student Relationships: The Role of  
Teacher Attachment and Self-Efficacy. *International  
Journal of Body, Mind and Culture*, 12(3), 174-189.



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## Introduction

The teacher-student relationship provides the foundation for teaching and students' socioemotional development (Akram & Li, 2024; Martin & Collie, 2019). Being defined as one of the most basic interpersonal relationships that take place within a school, the relationship between teachers and students offers an important focal point through which educators may further improve learning and social interactions within

# Modeling Teacher-Student Relationships: The Role of Teacher Attachment and Self- Efficacy

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## ABSTRACT

**Objective:** This study aimed to bridge this gap by examining a causal model of the teacher-student relationship based on teacher attachment styles and self-efficacy. Unlike previous studies that have not specifically examined teacher attachment styles, this research simultaneously investigated both variables, providing a comprehensive model.

**Methods and Materials:** This study focused on elementary school teachers in Iran, specifically from Tehran, with a randomly selected group of 325 participants. Data on teacher-student interactions, attachment styles, and self-efficacy were gathered through questionnaires. The data was analyzed using Structural Equation Modeling (SEM).

**Findings:** The results showed that teachers with a secure attachment style had a stronger, more positive relationship with their students. In contrast, those with avoidant or anxious attachment styles had weaker relationships. Additionally, teachers who believed in their own ability (self-efficacy) also had better relationships with students.

**Conclusion:** These findings highlight the importance of encouraging secure attachment styles in schools.

**Keywords:** teacher-student relationship, attachment style, self-efficacy, elementary school.

classrooms (Byiringiro, 2024; Dai, 2024). This is a two-way relationship, shaped in the school daily interactions of teachers and students, through the character and personalities of both interacting parties, guided by their beliefs (Ghazalsafrou, 2024; Yang & Seyed Alitabar, 2024; Zhang et al., 2024). According to (Aksenov et al., 2021), the best way in which the student-teacher interaction may be influenced is through the teacher's style of attachment. Attachment, as Bowlby explains, is an enduring emotional bond that exists between two

individuals. Attachment styles, formed in early caregiver-child relationships, influence one's view about oneself, others, and relationships (Kurdi & Archambault, 2018). Attachment is a dynamic process that does not end in childhood years but extends into adulthood (Ainsworth, 1978). There are three major kinds of attachment styles, which are secure, avoidant, and anxious-ambivalent; each can elicit different kinds of classroom interaction styles (Ainsworth, 1978). In the social learning theory and the social cognitive theory developed by Albert Bandura, the teacher's belief in their capability to inspire student activity and learning even when students are difficult or unmotivated is referred to as "teacher self-efficacy" (Lazarides & Warner, 2020).

A student's personality development, behavioral concerns, and development of beliefs, values, and attitudes are most strongly influenced by the first contact he or she has with his teacher at elementary school. Initial interaction with the teacher at school is critical in developing a child's behavioral attributes and academic performance. Recent research in Iran on student behavioral problems has revealed that 28% of students are involved in bullying, with 2% being elementary school students. Additionally, aggression rates are 55% among boys and 41% among girls, with lower rates observed in elementary school and higher rates among adolescents (Appiah et al., 2023).

Furthermore, research has shown that this relationship impacts students' academic outcomes and motivation. Teachers' ability to facilitate student academic progress plays a significant role in preventing disruptive behaviors in the classroom. Moreover, teachers' coping skills, self-efficacy in facing challenges and situations, classroom management strategies, and beliefs and attitudes toward bullying directly impact student outcomes (Sun et al., 2022). Most importantly, the impact of this relationship on student academic outcomes and motivation is significant. Although extensive research has been conducted on the teacher-student relationship, a significant research gap exists in understanding and examining teacher self-efficacy, attachment styles, and perceived organizational climate. This gap is noteworthy because the teacher's internal characteristics, such as attachment styles developed in childhood, influence the manner and quality of their interactions with others. Moreover, teacher self-efficacy, which refers to a teacher's belief in their ability to teach

effectively and manage the classroom, is crucial in creating a positive learning environment (Bankston, 2020). On the other hand, the impact of school organizational climate on the quality of teacher-student interactions in elementary schools has been overlooked by researchers. Addressing this research gap is crucial because focusing on the teacher-student relationship is essential for achieving the desired outcomes mentioned above.

John Dewey, in the early 20th century, posited that students acquire knowledge and skills through interactions with others, particularly their teachers. Expanding on this concept, (Ansari et al., 2020) argued that teacher-student relationships are comprised of beliefs and expectations that teachers and students hold about themselves, others, and the relationship, as well as behavioral exchanges that result in experiences and beliefs shaped by individual characteristics (e.g., temperament) and experiences (e.g., prior attachments). Numerous studies have examined factors related to students, teachers, and external variables that predict teacher-student relationships.

(Noble et al., 2021) sought to examine the use of a collaborative framework in teacher-student relationships to predict the risk of high school dropout. Results revealed that school-level collaborative cohesion predicted dropout risk, and this relationship was partially mediated by student engagement. These findings provide evidence for the validity of the collaborative framework as a useful conceptualization of teacher-student relationships and enhance our understanding of collaboration within a high school setting.

(Appiah et al., 2023), in their study titled "Teacher-student Relationships and Student Engagement: Does the Number of Negative and Positive Relationships with Teachers Matter?" demonstrated that teacher-student relationships are a crucial part of students' interpersonal context in school, influencing their academic growth.

(Konishi et al., 2018) examined the relationship between school bullying, student-teacher relationships (S-T), and academic performance. Multilevel analysis revealed that mathematics achievement was negatively related to school bullying and positively related to S-T relationships. For boys, a significant interaction between bullying and S-T relationships was found, indicating a strong moderating effect of S-T relationships on the link

between school bullying and mathematics achievement. Similar results were observed for reading achievement.

(Wettstein et al., 2021) investigated how classroom and subject teachers' self-efficacy beliefs and emotional stability relate to teacher and student perceptions of the teacher-student relationship, classroom management, and classroom disruptions. The findings showed that, among classroom teachers, high emotional stability and self-efficacy were associated with more positive evaluations (compared to student ratings) of the teacher-student relationship and classroom management skills, but not with teacher perceptions of student misbehavior. Conversely, subject teachers' strong self-efficacy beliefs were linked to more favorable perceptions of classroom characteristics, from both teachers' and students' perspectives.

Existing research has been fragmented, often focusing solely on specific student groups, particularly at the secondary level. However, there has been a dearth of research on elementary school teachers and their relationships with students. Given the significant impact of early teacher-student interactions on students' personality development, beliefs, values, and behaviors, this oversight is notable. This study aims to address these gaps by developing a causal model of the teacher-student relationship based on attachment styles and self-efficacy among elementary school teachers. Furthermore, no previous studies have specifically examined teachers' attachment styles (Erturk & Ziblim, 2020). This research concurrently investigates both attachment styles and teacher self-efficacy, providing a comprehensive model that, through the integration of these variables within a coherent theoretical framework, offers a deeper understanding of the psychological characteristics of teachers that influence the development and strengthening of teacher-student relationships. Ultimately, this research aims to improve the quality of teacher-student interactions. The findings of this study have broad implications for scientific, social, and particularly educational fields. Scientifically, this research contributes to the development of existing theories and models related to attachment style and self-efficacy, deepening our understanding of the complex relationships between these variables.

The findings from the study have several significant practical implications for educators and policymakers. The results underscore the importance of teacher

attachment style and self-efficacy in shaping teacher-student relationships, which are crucial for fostering positive educational environments. These insights can inform the development of targeted strategies to improve teaching effectiveness and enhance student outcomes. For educators, the study highlights the need for increased self-awareness regarding their attachment styles and the impact these may have on student relationships. Teachers with more secure attachment styles tend to foster more positive, supportive interactions with students, which can enhance student engagement and learning outcomes. Therefore, professional development programs could include training that encourages teachers to reflect on their own attachment patterns and adopt strategies that promote secure teacher-student bonds. Additionally, improving teacher self-efficacy — the belief in one's ability to affect student learning — could be facilitated through continued professional development, mentorship, and collaborative practices. When teachers feel more confident in their teaching abilities, they are likely to build stronger relationships with students, fostering a more positive and effective learning environment (Kurdi & Archambault, 2018). For policymakers, these findings suggest that educational policies should prioritize the integration of attachment theory and self-efficacy into teacher training and evaluation frameworks. Recognizing the role of these factors in teacher performance could lead to reforms that focus not only on academic qualifications but also on emotional and relational aspects of teaching. Policies that promote supportive working conditions for teachers, such as mentorship programs, counseling services, and a culture of collaboration, can directly enhance teacher self-efficacy. Furthermore, addressing systemic challenges in education that impact teacher-student interactions, such as class sizes, school resources, and teacher well-being, can further improve the overall teacher-student relationship (Mansor et al., 2013). By emphasizing the relational and emotional components of teaching in policy, long-term educational improvements can be achieved, ensuring that all students receive the support they need to succeed. In summary, the practical implications of these findings highlight the importance of considering emotional intelligence, attachment, and self-efficacy in teacher development and policy-making. Both educators and policymakers can use this knowledge to

foster healthier, more productive teacher-student relationships, ultimately leading to better educational outcomes for students.

## Methods and Materials

### *Study Design and Participants*

This study utilized structural equation modeling and regression analysis as the research methods. Structural equation modeling is an advanced statistical approach used to analyze relationships between latent and observed variables, allowing for the simultaneous examination of multiple independent and dependent variables and modeling complex interrelationships. To determine the conceptual model of this research, attachment theory, and self-efficacy concepts were employed to investigate the impact of teachers' attachment styles and self-efficacy on the teacher-student relationship. To examine the causal relationships among variables, structural equation modeling was utilized. Data analysis involved a multiple regression analysis to initially explore the relationships between independent and dependent variables, followed by a two-stage SEM. The population of this study consisted of all elementary school teachers in the country of Iran and the city of Tehran. To determine the sample size, G\*Power software was used. Based on previous research, the minimum effect size was considered. The effect size was set at 0.05, power at 0.95, and alpha level at 0.05. The output from G\*Power indicated a required sample size of 325. The sampling method was random and convenience sampling.

During the implementation phase, with the coordination of various school principals, researchers visited elementary school teachers' offices to provide explanations regarding the study's objectives, procedures, response methods, and the importance of accurate responses. Teachers were asked to complete the questionnaires within 20–30 minutes. Additionally, a mechanism was established to allow teachers to contact the researcher and clarify any doubts they encountered during the questionnaire completion process. A total of 300 questionnaires were collected. However, after data cleaning, due to duplicate responses, missing data, and a lack of cooperation, only 298 complete questionnaires were analyzed.

### *Instruments*

To ensure participant confidentiality, all personally identifiable information that could compromise the anonymity of respondents was removed from the questionnaires. The questionnaire used was the Lardasmi and Kenny Teacher Interaction Questionnaire (QTI), which consists of 48 Likert-scale items. The QTI measures eight dimensions: leadership, helpful-friendly behavior, understanding, responsibility-freedom, uncertainty, dissatisfaction, punishment, and strictness.

The questionnaire is the Collins and Reid Adult Attachment Style Questionnaire (RAAS), developed in 1990. This self-report measure is designed to assess individuals' abilities to form relationships and their characteristic patterns of attachment to significant others. Originally consisting of 21 items, the questionnaire was later refined to include 18 items.

The questionnaire is the Teacher Self-Efficacy Scale (TSOES-LF), developed by Tschannen-Moran and Woolfolk (2001). This instrument consists of 24 items grouped into three subscales: engaging students (7 items), teaching strategies (9 items), and classroom management (8 items). It is designed to measure teachers' beliefs in their ability to perform effectively in the classroom.

The selection of the Lardasmi and Kenny Teacher Interaction Questionnaire (QTI), Collins and Reid Adult Attachment Style Questionnaire (RAAS), and the Teacher Self-Efficacy Scale (TSOES-LF) is appropriate for the study's cultural and educational context due to several reasons that align with the goals of the research. The QTI is particularly suitable because it measures key dimensions of teacher-student relationships, such as leadership, helpfulness, and understanding, which are essential for exploring teacher attachment styles and their interactions with students. These dimensions are universally relevant in educational contexts, but the specific cultural and educational practices in the study's setting can influence how teacher-student interactions manifest. For example, in certain cultural contexts, elements like strictness or punishment may have particular relevance due to societal expectations and norms around discipline and authority. By including these dimensions, the QTI allows for a comprehensive exploration of how teacher behavior in specific areas may influence their relationships with students, making



it a relevant tool for the study's objectives. The RAAS is a well-established tool for assessing attachment styles, and its application in the study of teachers' attachment to students is crucial for understanding how personal attachment patterns may affect professional relationships. Attachment theory holds universal relevance, but cultural factors often shape how attachment behaviors are expressed. For instance, cultural attitudes toward authority, individualism versus collectivism, and emotional expressiveness can all influence how attachment styles manifest in teachers' interactions with students. The RAAS captures these patterns, allowing the study to explore how different attachment styles, such as secure or avoidant, may influence teachers' ability to form effective relationships with their students

in this particular educational setting. The TSOES-LF is particularly relevant as it directly assesses teachers' self-efficacy in classroom settings. Teachers' beliefs in their ability to manage classrooms and engage students significantly impact their teaching quality and relationships with students. The three subscales—engaging students, teaching strategies, and classroom management—are particularly relevant in the study's context, as these factors directly influence teacher-student interactions and can be culturally shaped. In some cultures, there may be specific expectations regarding how teachers manage their classrooms or engage with students, which could affect how teachers perceive their own effectiveness. The TSOES-LF, therefore, provides valuable insights into how self-efficacy beliefs impact teacher behavior and relationships in the specific cultural and educational context of the study. Overall, these three questionnaires offer a multidimensional approach to understanding teacher-student relationships by capturing key aspects of teacher behavior, attachment styles, and self-efficacy. Their use in this study is appropriate as they address the complexities of teacher-student dynamics, while also allowing for the consideration of cultural and contextual factors that influence these relationships. By integrating these measures, the study can explore how attachment and self-efficacy influence teacher-student interactions, providing valuable insights into the cultural and educational dynamics at play.

### Data Analysis

Structural Equation Modeling (SEM) was chosen for its ability to test complex relationships between observed and latent variables, such as teacher attachment style and self-efficacy. To ensure validity, assumptions like normality were checked using skewness, kurtosis, and visual inspections of distributions, with non-parametric methods used if needed. Multicollinearity was assessed using Variance Inflation Factors (VIF), and adjustments were made if predictors showed high correlations. Model fit was evaluated using indices like CFI, TLI, and RMSEA, ensuring the proposed model accurately reflected the data. Missing data were addressed using Full Information Maximum Likelihood (FIML) estimation, which allows for the use of all available data without excluding cases with missing values. This method assumes that data are missing at random (MAR) and provides more accurate and efficient estimates compared to traditional approaches like listwise deletion. Additionally, any patterns of missing data were examined to confirm that they did not introduce systematic biases. These techniques ensured that the analysis remained robust and reliable while minimizing data loss.

### Findings and Results

A total of 298 elementary school teachers (280 women and 18 men) participated in this study. The participants' ages ranged from under 26 years (11.4%) to over 55 years (1.7%). Regarding educational background, 4.4% held an associate's degree, 72.5% a bachelor's degree, 21.8% a master's degree, and 1.3% a doctorate. The participants' fields of study included elementary education (26.5%), psychology (11.4%), educational sciences (26.5%), and other fields (35.6%). Teaching experience ranged from less than 10 years (66.1%) to over 25 years (5.7%). After data collection, 298 complete and valid questionnaires were analyzed. Before hypothesis testing, descriptive statistics such as means, standard deviations, and correlation coefficients were calculated and reported for all research variables.

The sample consisted of 300 married female students with an average age of 30.77 years ( $SD = 6.91$ ) and an average marital duration of 7.5 years ( $SD = 3.2$ ). A majority held a bachelor's degree (54.3%) and were

first-born children (40%). Detailed demographic data are summarized in [Table 1](#).

**Table 1**

*Mean, Standard Deviation and Correlation Matrix Between the Research Variables*

Research Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Secure Attachment Style	-													
2. Avoidant Attachment Style	**-.16	-												
3. Ambivalent Attachment Style	**-.29	**-.19	-											
4. Teacher SE - Learner Engagement	**-.42	**-.20	**-.46	-										
5. Teacher SE - Educational Strategies	**-.43	**-.22	**-.48	**-.74	-									
6. Teacher SE - Classroom Management	**-.41	**-.21	**-.43	**-.69	**-.65	-								
7. T/S Relationship - Leadership	**-.29	**-.21	**-.34	**-.32	**-.36	**-.35	-							
8. T/S Relationship - Supportive Behavior	**-.25	**-.19	**-.28	**-.31	**-.35	**-.38	**-.46	-						
9. T/S Relationship - Understanding	**-.23	.07	**-.33	**-.42	**-.44	**-.43	**-.34	**-.35	-					
10. T/S Relationship - Responsibility	**-.25	**-.17	.09	.11	.10	*.12	**-.18	**-.18	*.12	-				
11. T/S Relationship - Uncertainty	**-.30	**-.23	**-.34	**-.33	**-.35	**-.32	**-.21	**-.22	**-.32	.10	-			
12. T/S Relationship - Deprecate	**-.22	**-.16	**-.24	**-.19	**-.21	**-.25	**-.19	**-.24	**-.16	**-.28	**-.27	-		
13. T/S Relationship - Punishment	**-.32	**-.20	**-.27	**-.33	**-.36	**-.33	**-.20	*.14	**-.19	**-.27	**-.36	**-.36	-	
14. T/S Relationship - Strictness	**-.32	**-.28	*.13	**-.26	**-.22	**-.29	**-.19	**-.22	.08	**-.27	**-.31	**-.38	**-.35	-
Mean	10.12	97.12	28.10	60.20	53.22	58.23	89.21	91.15	38.16	45.16	50.14	48.13	07.15	40.16
Standard Deviation	15.3	08.3	87.3	52.5	24.5	43.5	88.5	21.4	88.3	01.4	89.3	51.3	12.4	69.4

\* $p < 0.05$  and \*\* $p < 0.01$

Based on the results of [Table 1](#), the correlation coefficients between the variables were in the expected direction and aligned with the theories of the research field. As [Table 2](#) shows, in this research, in order to evaluate the assumption of normality of univariate data distribution, kurtosis and skewness of the variables and to evaluate the assumption of collinearity of Variance Inflation Factor (VIF) and Tolerance Coefficient were investigated.

Based on the results of [Table 1](#), the correlation coefficients between the variables were in the expected direction and aligned with the theories of the research field. [Table 1](#) shows that there is a positive correlation between secure attachment style and self-efficacy. Specifically, the correlations between secure attachment style and self-efficacy in the domains of student engagement (0.42), instructional strategies (0.43), and classroom management (0.41) are positive and significant. This indicates that teachers with a secure attachment style perceive higher self-efficacy in various teaching domains, including engaging students, employing effective strategies, and managing classrooms.

In fact, teachers with a secure attachment style establish much stronger connections with their students.

These teachers tend to have greater confidence in classroom management and a better understanding of their students' needs. This strong connection suggests that such teachers are more likely to create positive learning environments where students feel supported and encouraged.

[Table 1](#) also indicates a positive and significant correlation between secure attachment style and teacher-student relationships. The teacher-student relationship dimensions (leadership: 0.29, helpful behavior: 0.25, understanding: 0.23, responsibility: 0.25) suggest that teachers with a secure attachment style exhibit more positive relationships with their students and demonstrate behaviors such as leadership, helpfulness, understanding, and responsibility.

Conversely, [Table 1](#) shows significant negative correlations between avoidant attachment style and self-efficacy. Teacher self-efficacy (student engagement: -0.20, instructional strategies: -0.22, classroom management: -0.21) appears lower in teachers with an avoidant attachment style. This aligns with attachment theories emphasizing the negative impact of insecure relationships on individual performance.

[Table 1](#) further reveals significant negative correlations between avoidant attachment style and

teacher-student relationships. Teacher-student relationship dimensions (leadership: -0.21, helpful behavior: -0.19, uncertainty: -0.23, dissatisfaction: -0.16, punishment: -0.20, strictness: -0.28) suggest that teachers with an avoidant attachment style tend to exhibit more negative relationships with their students. These teachers are more likely to display behaviors such as uncertainty, dissatisfaction, punitive actions, and strictness.

Similarly, Table 1 shows significant negative correlations between ambivalent attachment style and teacher-student relationships. The teacher-student relationship dimensions (leadership: -0.34, helpful behavior: -0.28, understanding: -0.33, uncertainty: -0.34, dissatisfaction: -0.24, punishment: -0.27) indicate that teachers with an ambivalent attachment style have more negative relationships with their students. These

teachers are prone to displaying behaviors characterized by uncertainty, dissatisfaction, and punishment.

Table 1 also highlights significant negative correlations between ambivalent attachment style and self-efficacy. Teacher self-efficacy (student engagement: -0.46, instructional strategies: -0.48, classroom management: -0.43) is substantially lower in teachers with an ambivalent attachment style, reflecting the profound negative influence of this attachment style on their perceived effectiveness in various teaching domains.

It is worth noting that Table 1 includes small correlation coefficients, such as 0.10 and 0.12, which are significant at the 0.05 level. Although these correlations are statistically significant, they may lack substantial practical importance.

**Table 2**

*Examining the Assumptions of Normality and Collinearity*

Variable	Kurtosis	Skewness	Tolerance Coefficient	Variance Inflation
Secure Attachment Style	-0.67	0.07	0.77	1.31
Avoidant Attachment Style	-0.54	-0.17	0.91	1.10
Ambivalent Attachment Style	-0.01	-1.16	0.71	1.41
Teacher SE - Learner Engagement	-0.22	-0.40	0.23	4.31
Teacher SE - Educational Strategies	-0.31	-0.71	0.25	4.05
Teacher SE - Classroom Management	-0.21	-0.68	0.31	3.27
T/S Relationship - Leadership	0.33	-0.01	0.77	1.31
T/S Relationship - Supportive Behavior	-0.12	1.15	-	-
T/S Relationship - Understanding	-0.10	0.01	-	-
T/S Relationship - Responsibility	0.71	0.89	-	-
T/S Relationship - Uncertainty	-0.15	0.39	-	-
T/S Relationship - Deprecate	0.75	1.45	-	-
T/S Relationship - Punishment	0.34	0.07	-	-
T/S Relationship - Strictness	0.71	0.98	0.77	-

Table 2 indicates that the skewness and kurtosis values of all components fall within the  $\pm 2$  range. This finding suggests that the assumption of univariate normality holds for the data. Additionally, based on the results in Table 2, the multicollinearity assumption can be considered met. This is because the tolerance values of the predictor variables are greater than 0.1, and the variance inflation factor (VIF) values for each are less than 10. According to Mirz and colleagues (2006), a tolerance value below 0.1 and a VIF value above 10 indicate a violation of the multicollinearity assumption.

We analyzed the Mahalanobis distance to assess the multivariate normality assumption. The skewness and kurtosis values of this information were calculated as 0.63 and 0.24, respectively. Thus, the skewness and

kurtosis values fall within the  $\pm 2$  range, indicating that the multivariate normality assumption holds for the data. Finally, to evaluate the homogeneity of variances, a scatterplot of standardized residuals was examined. The assessment showed that this assumption also holds for the data.

In our research measurement model, teacher self-efficacy and the teacher-student relationship were latent variables. It was hypothesized that the latent variable of teacher self-efficacy was measured by the indicators of student engagement, instructional strategies, and classroom management, and the latent variable of teacher-student interaction was measured by the indicators of leadership, helping behavior, understanding, responsibility, uncertainty,

dissatisfaction, punishment, and strictness. The goodness of fit of the measurement model was evaluated using confirmatory factor analysis in AMOS 24.0, with

maximum likelihood estimation. Table 3 shows the fit indices of the measurement model.

**Table 3**

*Measurement Model Fit Indices*

Fitness Indicators	Primary Measurement Model	Modified Measurement Model	Cutoff Point
Chi Square	1.27	0.69	-
Degree of Freedom of the Model	43	41	-
$\chi^2/df$	3.26	2.26	< 3
GFI (Goodness-of-Fit Index)	0.911	0.942	> 0.90
AGFI (Adjusted GFI)	0.863	0.907	> 0.85
CFI (Comparative Fit Index)	0.918	0.956	> 0.90
RMSEA (Root Mean Square Error)	0.087	0.065	< 0.08

Table 3 shows that, except for the RMSEA fit index, the other fit indices from the confirmatory factor analysis support the acceptable fit of the measurement model to the collected data. Given the significant importance of the RMSEA fit index in model-data fit, the model was modified by introducing covariances between the errors of 'understanding' and strictness (in the first stage) and 'leadership' and 'helping behavior' (in the second stage). As Table 3 shows, the modified model resulted in fit indices indicating that the measurement model fits the collected data. In the measurement model, the largest factor loading belonged to the indicator 'student engagement' ( $\beta = .913$ ) and the smallest factor loading belonged to the indicator 'responsibility' ( $\beta = .334$ ). Thus, given that the factor loadings of all indicators were

above .32, it can be concluded that they all had the necessary capacity to measure the latent variables.

Following the evaluation of the measurement model, the fit indices of the structural model (Figure 1) were estimated and evaluated in the second stage. The structural model hypothesized that attachment style was related to the teacher-student relationship through the mediation of teacher self-efficacy in elementary school teachers. The structural model was analyzed, and the results showed that the fit indices obtained supported the acceptable fit of the structural model to the collected data ( $\chi^2 = 135.24$ ,  $df/\chi^2 = 1.99$ , CFI = .952, GFI = .937, AGFI = .903, RMSEA = .058). Table 4 shows the path coefficients in the structural model.

**Table 4**

*Total and Direct Path Coefficients Between Research Variables in the Structural Model*

Effect	Path	b	S.E	$\beta$	p
Direct	Ambivalent Attachment → Teacher Self-Efficacy	-0.385	0.056	-0.392	0.001
	Avoidant Attachment → Teacher Self-Efficacy	-0.169	0.089	-0.109	0.060
	Secure Attachment → Teacher Self-Efficacy	0.512	0.090	0.337	0.001
	Teacher Self-Efficacy → Teacher/Student Relationship	0.091	0.022	0.406	0.001
	Ambivalent Attachment → Teacher/Student Relationship	-0.037	0.017	-0.169	0.028
	Avoidant Attachment → Teacher/Student Relationship	-0.070	0.021	-0.201	0.001
	Secure Attachment → Teacher/Student Relationship	0.092	0.022	0.270	0.001
Indirect	Ambivalent Attachment → Teacher/Student Relationship	-0.035	0.010	-0.159	0.001
	Avoidant Attachment → Teacher/Student Relationship	-0.015	0.009	-0.044	0.066
	Secure Attachment → Teacher/Student Relationship	0.047	0.014	0.137	0.001
Total	Ambivalent Attachment → Teacher/Student Relationship	-0.072	0.019	-0.328	0.001
	Avoidant Attachment → Teacher/Student Relationship	-0.085	0.022	-0.246	0.001
	Secure Attachment → Teacher/Student Relationship	0.138	0.026	0.407	0.001

Table 4 shows that the total path coefficient between the secure attachment style and teacher/student relationship ( $\beta = 0.407$ ,  $P = 0.001$ ) is positive and the total

path coefficients between avoidant attachment style ( $P = 0.001$ ,  $246/\beta = -0$ ) and ambivalent attachment style ( $\beta = -0.328$ ,  $P = 0.001$ ) is negative and significant with



teacher/student relationship. The path coefficient between teachers' self-efficacy and teacher/student relationship ( $P=0.001$ ,  $\beta=0.406$ ) was positive and significant. According to the results of Table 4, the indirect path coefficient between secure attachment style and teacher/student relationship ( $\beta=0.137$ ,  $P=0.001$ ) is positive and the indirect path coefficient between ambivalent attachment style ( $P=0.001$ ,  $159/\beta=-0$ ) was negative and significant with the teacher/student relationship. It should be noted that the indirect path coefficient between avoidant attachment style and teacher/student relationship was not statistically significant. Therefore, it was concluded that teachers' self-efficacy mediates the relationship between secure attachment and teacher/student relationship in a positive way and the relationship between ambivalent attachment style and teacher/student relationship in a negative and meaningful way in elementary school teachers. The results indicate that teacher self-efficacy plays a significant role in the relationship between attachment styles and the teacher-student relationship. In other words, teachers' attachment styles influence their self-efficacy, which, in turn, affects the quality of their relationships with students. Specifically, teachers with secure attachment styles, due to higher self-efficacy, establish more positive relationships with their students. In contrast, teachers with insecure attachment styles

(avoidant and ambivalent), due to lower self-efficacy, experience more negative relationships with their students. The non-significance of the indirect pathway for the avoidant attachment style suggests that, in this case, self-efficacy does not play a significant mediating role, and other factors may be involved in the direct relationship between this style and the teacher-student relationship. Finally, the path coefficient between avoidant attachment style and teacher-student relationships is  $-0.407$ , indicating a negative effect of avoidant attachment style on teacher-student interactions. This suggests that teachers with an avoidant attachment style may face challenges in establishing effective connections with their students.

Teachers with a secure attachment style are perceived as supportive and responsive, and they have a positive impact on students' adaptation to the school environment. In contrast, teachers with an avoidant attachment style, due to their avoidance of close and emotional relationships, and teachers with an anxious-ambivalent attachment style, due to their emotional fluctuations and instability in their relationships, establish negative and weak relationships with students.

Figure 1 shows the structural model of the research in explaining the relationship between attachment styles and self-efficacy with the teacher/student relationship in elementary school teachers.

Figure 1

Standard parameters in the research structural model

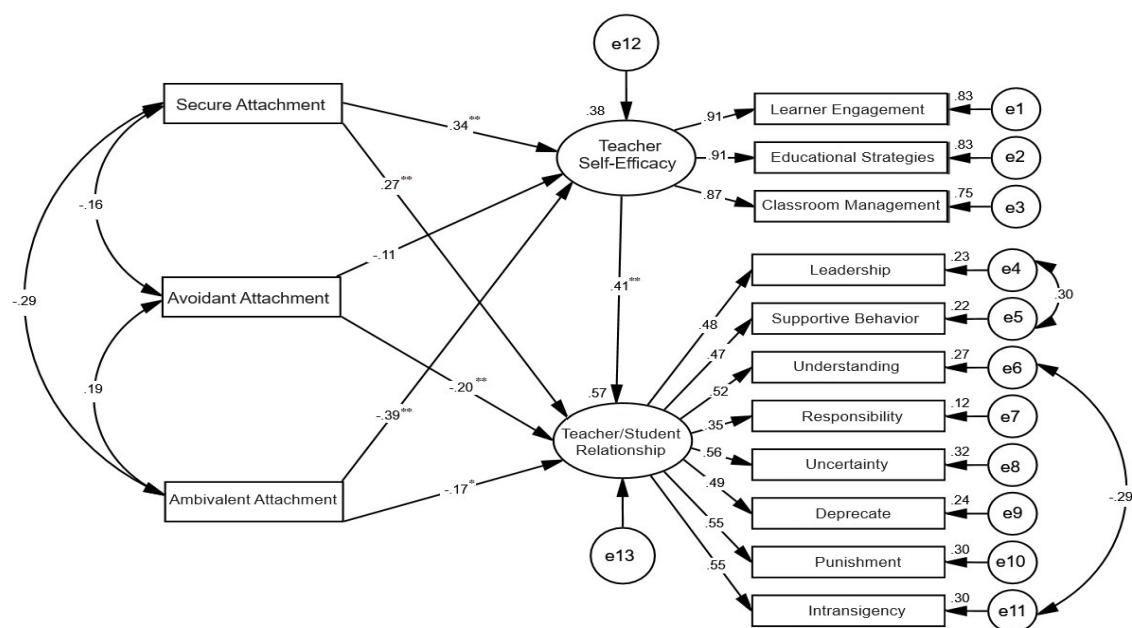


Figure 1 shows that the multiple R-squared for the teacher-student relationship variable was 0.58. This finding indicates that attachment styles and self-efficacy explain 58% of the variance in teacher-student relationships among elementary school teachers.

The findings indicate that a secure attachment style positively influences teacher-student relationships. These results can inform the design of educational programs aimed at enhancing teachers' communication and emotional skills, ultimately improving teaching performance. Additionally, the findings highlight that teacher self-efficacy plays a significant role in the quality of relationships with students. Investing in initiatives to enhance teachers' self-efficacy could lead to improved educational quality. The findings also reveal that other factors, such as class size and curriculum design, affect teacher-student relationships. This suggests that improving the quality of these relationships requires a comprehensive approach addressing multiple aspects, including reducing class sizes, enhancing curricula, and upgrading teacher training programs. It is important to consider cultural factors specific to Iran when interpreting these findings. Cultural norms, such as respect for elders, hierarchical power structures in classrooms, emphasis on formal education, and the role of parents in child-rearing, can influence the development of teacher-student relationships. For instance, excessive intimacy between teachers and students may not be culturally appropriate in Iran, potentially affecting the relationship between secure attachment styles and teacher-student interactions. These findings can help Iran's educational system focus on creating safer and more supportive environments for both teachers and students, thereby enhancing the quality of educational relationships.

It is important to note that certain challenges within the Iranian educational system can also influence the quality of teacher-student relationships and impact the study's findings. These include: limited financial resources, a shortage of qualified personnel, and inadequate educational facilities. Overcrowded classrooms, in particular, reduce opportunities for individualized interactions between teachers and students, negatively affecting the quality of education. Additionally, a heavy curriculum with an emphasis on theoretical learning rather than practical skills limits

opportunities for effective teacher-student interactions. Furthermore, the diverse cultural, social, and economic backgrounds of students pose challenges in establishing effective connections with all of them. These factors can significantly influence the findings of the study. For instance, overcrowded classrooms and a heavy curriculum may limit teachers' ability to provide individualized attention and support to students, which is crucial for building strong teacher-student relationships. Similarly, the diverse needs of students from different socioeconomic backgrounds may require teachers to adopt a variety of teaching strategies, which can be challenging without adequate resources and training. In conclusion, while the study highlights the significant role of teacher attachment styles and self-efficacy in shaping teacher-student relationships, it is essential to consider the broader context of the educational system, particularly in Iran. The challenges faced by the education system, such as limited resources, overcrowded classrooms, and diverse student populations, can influence the quality of these relationships and the overall effectiveness of teaching and learning.

### Discussion and Conclusion

The teacher-student relationship is considered to be the foundation of education, influencing psychological development, students' academic improvement, job satisfaction, and emotional development for teachers. In contrast, the attachment style and self-efficacy of teachers are some of the main factors in this regard. Thus, the present study investigated the teacher-student relationship at the elementary level based on teachers' attachment styles and their self-efficacy. Results showed that attachment styles are related to the teacher-student relationship of elementary school teachers. Specifically, secure attachment style was positively associated with teacher-student relationships while avoidant and anxious-ambivalent attachment styles were negatively related. This work is supported by previous studies such as that of O'Connor & McCartney (2017) who established that a teacher with a secure attachment style is better placed to create positive and lasting relationships with students, which translates to improved classroom quality and higher levels of academic achievement. (Noble et al., 2021) further showed that with teachers

who have secure attachments, there is enhanced verbal and non-verbal communication with the students, leading to reduced anxiety and increased self-confidence. Less insecure teachers create less motivating classroom environments and, thus, can have more chances to face behavioral conflicts. However, the present study indicated that teachers with secure attachment styles, due to increased flexibility and the creation of a safe environment while facing difficulties, maintain positive relationships with students. However, due to avoiding close and emotional relationships, and emotional instability and fluctuations respectively, teachers with avoidant attachment styles and anxious ambivalent attachment styles may have negative and significant relationships with students. According to John Bowlby's attachment theory, these different attachment styles are shaped through early childhood experiences with significant caregivers and in turn, influence interpersonal relationships throughout one's life. A teacher classified into a secure attachment style generally initiates supportive, trusting, and stable relationships with their students, leading to positive and supportive interactions during lessons that aid learning. Teachers with avoidant attachment styles avoid close and emotional relationships; hence, they can have a problem establishing deeper relations with the students. In such a case, close and emotional relations make them feel vulnerable, and therefore the teachers would not be able to establish deep relations with their students. This resistance to getting close might be able to produce a negative and significant relation of this attachment style with the teacher-student relationship. The anxious-ambivalent styles of attachment make the teachers inconsistent and contradictory in their relationships; very often, they interact with the students in a very cold and low-energy manner. Therefore, the findings showed that attachment style, through the mediation of self-efficacy, positively influences the teacher-student relationship; it means attachment style can promote the quality of interactions between teachers and students directly by enhancing the self-efficacy of teachers.

The results indicate that teacher self-efficacy and good teacher-student relationships at the elementary school level were remarkably interrelated. The result concurs with the study of (Lazarides & Warner, 2020) where self-efficiency among teachers leads to job satisfaction and reduced burnout. Moreover, students of

self-efficacious teachers are more motivated and exhibit superior academic performances and adjustment. This result also supports (Horner & Machalicek, 2022) in which it has been proved that teacher self-efficacy directly influences teachers' attitudes toward students. For instance, teachers with low self-efficacy may fail to establish a healthy relationship with students because of self-doubt; thus, there are chances of behavioral conflicts that hamper the quality of the relationship. The findings of the present study further support this view; thus, teachers' self-efficacy is positively related to the teacher-student relationship. Indeed, teachers with high self-efficacy will be more capable of establishing and maintaining relationships that will be both positive and effective with their students.

The findings of this study reveal that improving teachers' attachment styles and enhancing their self-efficacy can lead to significant improvements in teacher-student relationships and teaching quality. Consequently, educational policymakers should prioritize designing training programs and specialized workshops for teachers that focus on developing communication and psychological skills. Specifically, teachers should receive continuous training in classroom management and fostering emotional connections with students.

Additionally, addressing teachers' mental health and providing psychological support programs can reduce stress and enhance their confidence, which in turn increases productivity and teaching quality. Based on the study's findings, the challenges faced by teachers with avoidant or ambivalent attachment styles in their interactions with students can contribute to classroom tensions and behavioral issues. This highlights the need for greater attention to cultivating teachers with specific psychological traits in Iran's educational system. At present, many teachers may encounter difficulties in interacting with students due to work pressures and insufficient psychological training. These findings suggest that educational authorities should not only emphasize teaching skills but also focus on psychological training and enhancing teachers' attachment abilities. In this context, developing supportive programs aimed at fostering positive teacher-student relationships can be a key strategy for improving the quality of the educational system and addressing challenges in educational environments.

In Modeling Teacher-Student Relationships, certain relationships, such as those involving avoidant attachment styles, might show weaker effects for several reasons. Avoidant attachment, characterized by emotional distance and discomfort with closeness, can hinder the development of strong, supportive teacher-student relationships, which are essential for effective teaching and learning. Avoidant Attachment and Relationship Barriers Teachers with avoidant attachment styles tend to prioritize independence and self-sufficiency over emotional closeness, which may limit their ability to form deep, empathetic connections with students. This detachment could translate into a weaker capacity for recognizing and responding to students' emotional or academic needs. In teacher-student relationships, emotional support is crucial for building trust, motivation, and engagement, all of which enhance learning outcomes. Teachers with avoidant attachment may struggle with providing such support, leading to weaker or less effective relationships with students. Impact on Teacher Self-Efficacy, or a teacher's belief in their ability to impact students' learning, is also likely influenced by attachment style. Teachers with avoidant attachment may experience lower self-efficacy, particularly in emotionally demanding situations. This is because their tendency to distance themselves emotionally could undermine their confidence in handling complex classroom dynamics, such as addressing student distress or providing personalized support. When teachers are unable to fully engage with students on an emotional level, their sense of efficacy in fostering positive learning environments may be diminished, leading to less effective outcomes. Avoidant teachers might inadvertently create a less welcoming classroom climate. Students thrive in environments where they feel valued and supported, and avoidant behaviors—such as limited responsiveness to emotional cues—can signal to students that their needs are not a priority. This might result in lower levels of student engagement, motivation, and academic success. The weakened effect of avoidant attachment in teacher-student relationship models might reflect these classroom dynamics, where the teacher's lack of emotional availability limits their ability to foster positive student outcomes. The findings regarding weaker effects of avoidant attachment highlight the importance of addressing attachment styles in teacher

training programs. Teachers with avoidant tendencies may benefit from professional development that helps them become more aware of their attachment styles and develop strategies for building stronger, more supportive relationships with students. Encouraging teachers to reflect on their emotional responses and engage in relationship-building practices could improve their self-efficacy and strengthen their effectiveness in the classroom. The weaker effects associated with avoidant attachment styles suggest that emotional availability and engagement are crucial components of effective teacher-student relationships. Teachers who are emotionally distant may struggle to build the trust and rapport necessary for positive educational outcomes. Addressing these challenges through targeted interventions and professional development could enhance teacher-student relationships and improve educational results, particularly for teachers with avoidant attachment styles.

Cultural norms around education and teacher-student relationships in Iran play a significant role in shaping the findings of structural equation modeling related to teacher attachment style and self-efficacy. In Iranian society, education is highly valued, and teachers are traditionally seen as figures of authority and respect, embodying both moral and intellectual guidance. These cultural dynamics influence how attachment styles manifest in teacher-student interactions and how self-efficacy is perceived and applied in classroom settings. For instance, the collectivist nature of Iranian culture places a strong emphasis on harmonious relationships and respect for authority, which may encourage secure attachment styles among teachers who prioritize nurturing and supportive interactions. However, this cultural expectation may also mask potential relational challenges, as teachers might feel compelled to suppress personal insecurities or stress to align with societal norms. This dynamic could influence self-efficacy, as teachers who internalize cultural expectations of perfection and responsibility may experience fluctuations in confidence when facing challenges. Additionally, the hierarchical structure in Iranian classrooms may impact the bidirectional nature of teacher-student relationships, potentially limiting the role of student feedback in influencing teacher behavior. This could shape the structural equation modeling findings by emphasizing teacher-driven dynamics rather

than reciprocal interactions. Future research should consider these cultural factors when interpreting results and developing interventions, ensuring that the nuances of Iranian educational norms are accounted for in any proposed applications or reforms.

In the context of Structural Equation Modeling of Teacher-Student Relationships, several potential biases must be considered, particularly related to self-reported measures and the generalizability of findings across different educational contexts.

**Self-Reported Measures Bias** One of the most significant concerns is the reliance on self-reported measures for assessing teacher attachment styles and self-efficacy. Teachers may be prone to social desirability bias, where they provide responses that reflect idealized behaviors or attitudes rather than their true feelings. For example, teachers may overestimate their attachment security or self-efficacy to align with professional expectations, which could lead to inflated self-reports and misinterpretations of their actual teaching behaviors. Additionally, self-reported measures are susceptible to recall bias, where teachers might not accurately recall specific interactions or emotional responses in the classroom, leading to skewed data. To mitigate these biases, future studies could incorporate multi-source data, such as student feedback, peer observations, or objective classroom performance metrics, to cross-validate self-reports and provide a more comprehensive and accurate assessment of attachment styles and self-efficacy.

**Generalizability Bias** Another critical concern is the generalizability of findings to different educational contexts. Teacher-student relationships, attachment styles, and self-efficacy may vary widely across different countries, cultures, and educational settings. For instance, collectivist cultures may influence teachers' attachment styles and self-efficacy differently than individualist cultures, affecting the dynamics of teacher-student interactions. The hierarchical nature of some educational systems, particularly in non-Western countries, may also shape these relationships uniquely. If the study primarily focuses on one cultural or geographic context, such as a specific region or country, its findings may not apply universally. Therefore, the results may not be generalizable to other settings where cultural norms, institutional structures, or pedagogical practices differ. To enhance generalizability, future research should include diverse educational contexts,

incorporating a range of cultural, socioeconomic, and institutional factors to understand how attachment styles and self-efficacy manifest across varied settings. Cross-cultural studies would also provide a deeper understanding of how these dynamics differ and what universal principles can be applied. In summary, potential biases related to self-reported measures and generalizability should be carefully addressed in future research on teacher-student relationships. Combining multiple data sources and ensuring cultural diversity in sample populations can help enhance the validity and applicability of findings, ultimately strengthening the insights into the role of teacher attachment style and self-efficacy.

The present research is conducted on the association between the attachment styles of teachers and their self-efficacy as taken by the quality of teacher-student interactions in elementary schools. Indeed, it has been observed from the results that teachers with a secure attachment style showed higher degrees of self-efficacy. This increased degree of self-efficacy indeed brought significant improvements in the relationships of teachers and students. Indeed, the results of this study indicated that teacher self-efficacy moderated the quality of relationships between teachers and students, implying that high levels of self-efficacy strengthen the potency of secure attachment styles. Thus, when teachers possess a secure attachment style and are highly self-efficacious, they have the potential to establish even healthier and more supportive relationships with their students. Coupled with the fostering of relations and good communication, this is accompanied by a reduction in dropout rates and enhancement of students' academic achievement. Given the significance of such results, one should not only remember these variables but also attempt to promote further improvement on such issues within the educational arena. The results of such research would be generalized across the board for the development of a sense of self-efficacy among teachers, better education, and job satisfaction among the teachers. These findings will also help educational administrators and planners devise a better and more purposeful relationship between the teachers and students by emphasizing increasing the self-efficacy of the teachers and encouraging positive organizational environments. This act not only behooves the student academic outcomes to improve, but it also can increase



teacher motivation and job satisfaction. These findings will be helpful for educational planners in structuring workshops and training programs that may help enhance the styles of attachment and levels of self-efficacy of teachers with consequent improvement in the quality of learning environments. In sum, this investigation indicates that attention to psychological and organizational factors in educational settings will have extensive benefits for enhancing the quality of education and developing more positive and effective relationships between teachers and students. Consequent to this, further investigation in this area could be done by factoring in conditions such as marital status of teachers, teaching status in regions like rural, urban, public, or private schools, and other levels of education; applying the same sample size or larger than this, other variables factored in include more psychological and personality ones.

The findings from structural equation modeling of teacher-student relationships, particularly the roles of teacher attachment style and self-efficacy, have significant implications for educational policy and reform. Understanding the critical role of secure attachment styles in fostering positive teacher-student interactions can lead policymakers to prioritize relational skills in teacher training and professional development programs. For example, reforms could mandate the inclusion of modules on emotional intelligence, attachment theory, and relationship-building strategies in teacher education curricula. Furthermore, the strong association between teacher self-efficacy and classroom effectiveness highlights the need for institutional support systems to enhance teachers' confidence and competence. Policies could focus on reducing teacher stress through manageable workloads, mentorship programs, and access to mental health resources. Large-scale interventions, such as incorporating evidence-based frameworks for improving teacher-student relationships, could be implemented across schools to standardize best practices. At a systemic level, the research underscores the importance of fostering inclusive and supportive school environments where teacher-student dynamics are prioritized as a core element of educational success. These findings could influence funding allocations toward programs that improve teacher-student engagement, advocate for smaller class sizes, or promote

relational training as a key performance metric. Ultimately, integrating these insights into policy decisions can drive reforms that enhance the quality of education and student outcomes on a broader scale.

Future research should expand on the role of teacher attachment styles and self-efficacy by exploring their impact in diverse educational settings, such as secondary schools, special education, or multicultural classrooms. Longitudinal studies could provide insights into how these factors influence teacher-student relationships over time, particularly during transitional periods like moving from primary to secondary education. Integrating additional variables, such as teacher stress or student resilience, could also refine the model and offer a more comprehensive understanding. Long-term implications include the potential for targeted interventions to enhance teacher self-efficacy and promote secure attachment styles, ultimately fostering stronger teacher-student relationships. These efforts could lead to improved student outcomes, such as higher academic achievement, better social-emotional development, and reduced behavioral issues. Additionally, findings could inform teacher training programs, emphasizing the importance of relational skills alongside pedagogical expertise. This research has the potential to shape educational policies and practices, creating a more supportive and effective learning environment for students.

One limitation of the present study lies in omitting other variables (such as teachers' personality traits, students' family backgrounds, or environmental stressors) that may influence the teacher-student relationship but were not explicitly incorporated into the research model. Future research could address these additional factors. Moreover, another limitation is the inability to conduct a longitudinal study to examine changes in attachment styles and self-efficacy over time, as such studies typically require a more extended timeframe.

By addressing following recommendations, future research can deepen the understanding of teacher-student relationships and their implications, ultimately shaping better educational practices and policies.

**Longitudinal Research on Attachment Styles:** Future studies should adopt longitudinal designs to explore how teacher attachment styles and self-efficacy evolve over time and influence teacher-student relationships.

Examining changes across different stages of a teacher's career or throughout an academic year can provide insights into the stability or malleability of these traits and their long-term impact on student outcomes.

**Cross-Cultural Comparisons:** Investigating the applicability of findings across diverse cultural and educational contexts is crucial. Cross-cultural studies can identify universal patterns and context-specific differences in how attachment styles and self-efficacy shape teacher-student dynamics, allowing for more tailored interventions.

**Inclusion of Additional Variables:** Future research could integrate variables such as teacher burnout, job satisfaction, and emotional regulation to better understand how these factors interact with attachment styles and self-efficacy in shaping relationships. Additionally, student characteristics like emotional intelligence or behavioral tendencies could be included to provide a bidirectional perspective.

**Impact on Student Outcomes:** Research should directly examine how teacher attachment styles and self-efficacy influence student-specific outcomes, including academic performance, social-emotional skills, and behavioral development. This can help quantify the broader implications of teacher-student relationships.

**Experimental and Intervention Studies:** Studies that test interventions designed to enhance teacher attachment security or boost self-efficacy could provide causal evidence of their impact on relationship quality. These could include professional development programs or mindfulness training tailored to improve relational competencies.

**Technological Integration:** Exploring the role of digital tools, such as AI-driven classroom analytics, in monitoring and fostering teacher-student interactions could open new avenues for real-time feedback and relationship enhancement.

### Acknowledgments

The authors extend their gratitude to all participants in the study.

### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants (Ethics Code: IR.IAU.TNB.REC.1403.026).

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

### Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

### Authors' Contributions

All authors equally contribute to this study.

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